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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/808,258	03/24/2004	Yukihisa Takeuchi	789 123	4169
25191	7590	07/12/2007		
BURR & BROWN PO BOX 7068 SYRACUSE, NY 13261-7068			EXAMINER SHERMAN, STEPHEN G	
			ART UNIT	PAPER NUMBER
			2629	
			MAIL DATE	DELIVERY MODE
			07/12/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/808,258	Applicant(s) TAKEUCHI ET AL.	
	Examiner Stephen G. Sherman	Art Unit 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 June 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 10-11, 14-15, 19, 28-29, 32, 39, 41-42, 46, 49, 51-52 and 56 is/are pending in the application.
 4a) Of the above claim(s) 3-9, 12, 13, 21-27, 30, 31, 33 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1, 10, 11, 14, 15, 19, 28, 29 and 32 is/are allowed.
- 6) ☒ Claim(s) 39, 42, 46, 49, 52 and 56 is/are rejected.
- 7) ☒ Claim(s) 41 and 51 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 November 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is in response to the amendment filed the 14 June 2007. Claims 1, 10-11, 14-15, 19, 28-29, 32, 39, 41-42, 46, 49, 51-52 and 56 have been elected for prosecution and the claims withdrawn from consideration are 3-9, 12, 13, 15, 21-27, 30, 31 and 33. Claims 2, 16-18, 20, 34-38, 40, 43-45, 47-48, 50 and 53-55 have been cancelled.

Response to Arguments

2. Applicant's arguments filed with respect to claims 39, 41-42, 46, 49, 51-52 and 56 have been fully considered but they are not persuasive.

On page 20 of the applicant's response the applicant states that independent claims 39 and 49 have been amended to incorporate the content of dependent claims 40 and 50, respectively, and since claims 40 and 50 were not rejected based on Takeuchi that this rejection is moot, however, the examiner believes that as amended claims 39 and 49 are still anticipated by Takeuchi.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 39, 42, 46, 49, 52 and 56 are rejected under 35 U.S.C. 102(e) as being anticipated by Takeuchi et al. (US 7,071,628).

The applied reference has a common assignee with the instant application.

Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention “by another,” or by an appropriate showing under 37 CFR 1.131.

Regarding claim 39, Takeuchi et al. disclose an electron emission apparatus having a plurality of electron emitters, each electron emitter including a first electrode and a second electrode in direct contact with said electron emitter (Figure 1 shows the two electrodes in direct contact with the emitter.), wherein:

charges required for electron emission are accumulated in all the electron emitters by applying accumulation voltages that depend on the amount of charge to be accumulated in said electron emitters in a first period (Column 9, line 63 to column 10, line 9. Column 21, lines 11-20 explain that the voltage is determined dependent on the

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amount of electrons to be emitted, thus the first voltage will be determined based upon the charges that are to be accumulated.);

a constant emission voltage required for electron emission is applied to all the electron emitters to emit electrons in an amount depending on the charges accumulated in said electron emitters in a second period after said first period (Column 10, lines 17-35 and column 21, lines 11-20.); and

electrons are emitted from said electron emitter only during said second period (Column 10, lines 50-56.).

Regarding claim 42, Takeuchi et al. disclose a display apparatus according to claim 39, characterized by

a pulse generating circuit for generating a pulse signal applicable to said electron emitters, said pulse signal having a voltage waveform including a positive-going edge or a negative-going edge which is continuously variable in level (Figure 1, pulse generation source 22); and

a pulse width modulating circuit for pulse-width-modulating said pulse signal to generate said accumulation voltage in said first period (Figure 1, pulse generation source 22. Column 21, lines 11-20 explain that the number of electrons emitted is dependent upon the amplitude V_{in} of the drive voltage V_a applied, and thus changing the amount of time of the application of the first part of the waveform will change the accumulation voltage.).

Regarding claim 46, Takeuchi et al. disclose a display apparatus according to claim 39, wherein

said electron emitters have such characteristics that the electron emitters change to a first state in which electrons are accumulated when an electric field is applied in one direction to said electron emitters (Column 9, line 63 to column 10, lines 9.), and change from said first state to a second state in which electrons are emitted when an electric field is applied in another direction to said electron emitters (Column 10, lines 17-35 and column 21, lines 11-20.),

said apparatus further comprising a drive circuit for applying a voltage between a voltage for changing the electron emitters to said first state and a voltage for changing the electron emitters to a state immediately prior to said second state, to electron emitters which are unselected (Column 8, lines 13-23 explain that pulse generation source 22, i.e. a driver circuit, is used to control the voltage applied to the electron emitters.).

Regarding claim 49, this claim is rejected under the same rationale as claim 39.

Regarding claim 52, this claim is rejected under the same rationale as claim 42.

Regarding claim 56, this claim is rejected under the same rationale as claim 46.

Allowable Subject Matter

5. Claims 41 and 51 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. The following is a statement of reasons for the indication of allowable subject matter:

The primary reason for indicating allowable subject matter in claims 41 and 51 is the similar recitation of a pulse generating circuit for generating a pulse signal having a constant pulse amplitude and an amplitude modulating circuit for amplitude-modulating said pulse signal to generate said accumulation voltage in said first period, which is not found singularly or in combination within the prior art.

7. Claims 1, 10-11, 14-15, 19, 28-29 and 32 are allowed.

8. The following is an examiner's statement of reasons for allowance:

The primary reason for the allowance of independent claims 1 and 19 is the combination of all of the limitations, such as "wherein said drive circuit scans all said electron emitters and applies accumulation voltages depending on the luminance levels of corresponding pixels to the electron emitters which correspond to pixels to emit light therefrom in said first period" and "wherein charges in amounts depending on the

luminance levels of corresponding pixels are accumulated in the electron emitters which correspond to pixels to emit light therefrom in said first period” and “wherein electrons are emitted in amounts depending on the luminance levels of corresponding pixels from the electron emitters which correspond to pixels to emit light therefrom in said second period, thereby emitting light from the pixels”, which is not found singularly or in combination within the prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen G. Sherman whose telephone number is (571) 272-2941. The examiner can normally be reached on M-F, 8:00 a.m. - 4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on (571) 272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SS

2 July 2007

AMR A. AWAD
SUPERVISORY PATENT EXAMINER

